

What is claimed is:

1. A prosthetic knee cage, comprising:

a base unit formed by spaced from each other first and second side members interconnected by a connecting element, so as to form an operational channel therebetween;

a platform being adapted for pivotal cooperation with said base unit; and

an adjustment device for adjustment of pivotal movement of said platform relative to said base unit.

2. The prosthetic knee cage according to claim 1, wherein said adjustment device is situated within an anterior proximal region of said base unit, said adjustment device comprises a support bar movably arranged relative to said anterior proximal region of the base unit.

3. The prosthetic knee cage according to claim 2, wherein said adjustment device further comprises a support element interconnecting anterior proximal regions of said first and second side members and said support bar is adapted to receive a resilient member.

4. The prosthetic knee cage according to claim 3, wherein position of said support bar relative to said support element is adjusted by means of adjustment members associated with said support element.
5. The prosthetic knee cage according to claim 4, wherein said adjustment members are in the form of threadable members adapted for threadable engagement with said support bar, so that adjustment of position of said support bar and resilient member relative to the support element is adjusted by means of rotation of said threadable members within said support element.
6. The prosthetic knee cage according to claim 4, wherein upon elevation of said support bar relative to the support element downward motion of an anterior part of the platform is restricted, and upon lowering position of said support bar relative to the support element the downward motion of said anterior part of the platform is increased.
7. The prosthetic knee cage according to claim 1, wherein said platform further comprises a substantially flat table with first and second side plates spaced from each other and extending downwardly from said table, thus facilitating

pivotal motion of said platform within a proximal region of the operational channel about a pivotal axle.

8. The prosthetic knee cage according to claim 7, wherein said pivotal axle is centrally located within the platform and said platform is formed with a posterior pivotal mounting unit situated posterior to said pivotal axle.

9. The prosthetic knee cage according to claim 8, further comprising an anterior mounting unit situated within said platform anterior to said pivotal axle, said anterior mounting unit comprises a pair of spaced from each other anterior supporting elements extending outwardly from a bottom portion of the table, an anterior region of the anterior supporting elements is adapted to pivotally receive a connecting element therebetween.

10. The prosthetic knee cage according to claim 1, wherein said platform is capable of achieving an inclination in an anterior direction from a horizontal.

11. The prosthetic knee cage according to claim 10, wherein said anterior inclination is between 10° and 15° from horizontal.

12. A prosthetic device, comprising:

an upper prosthetic limb member;

a lower prosthetic limb member;

a hydraulic cylinder having a hydraulic piston movably disposed thereinside so as to form a hydraulic chamber between an interior of said hydraulic cylinder and said piston, a first connecting element extending outwardly from said hydraulic piston;

a gas cylinder independent from said hydraulic cylinder and having a gas piston movably disposed thereinside, so as to form a gas chamber between an interior of said gas cylinder and said gas piston, a second connecting element extending outwardly from said gas piston; and

said first and second connecting elements being movably associated with said upper prosthetic limb member,

whereby said hydraulic and gas chambers being responsive to operation of said prosthetic leg:

13. The prosthetic device according to claim 12, wherein upon movement of said hydraulic piston toward said lower prosthetic limb member the gas chamber is expanded.

14. The prosthetic device according to claim 12, wherein upon movement of said hydraulic piston away from said lower prosthetic limb member said gas chamber is reduced so as to compress a gas accumulated thereinside.

15. The prosthetic device according to claim 12, further comprising a gas valve arrangement associated with said gas chamber, so that upon movement of said hydraulic piston toward the lower prosthetic limb member and expansion of said gas chamber the gas enters said chamber via said gas valve arrangement.

16. The prosthetic device according to claim 15, wherein upon motion of said hydraulic piston away from said lower prosthetic limb member said gas piston being directed toward said lower prosthetic limb member diminishing the gas chamber, so as to compress and discharge said gas from said gas chamber via said gas valve arrangement.

17. The prosthetic device according to claim 15, wherein said gas valve arrangement is situated within the gas chamber in the vicinity of a bottom portion thereof.

18. The prosthetic device according to claim 16, wherein said gas valve arrangement provides communication between the gas operational chamber and an outside environment and said gas is an ambient air.

19. The prosthetic device according to claim 13, wherein said movement of the hydraulic piston toward said upper prosthetic limb member is caused by a kinetic energy accumulated by a resilient bladder.

20. The prosthetic device according to claim 19, wherein said kinetic energy is in the form of a pressure applied by said bladder to a hydraulic fluid situated within said hydraulic cylinder.

21. The prosthetic device according to claim 20, wherein said pressure generated by said resilient bladder forces said hydraulic fluid into the hydraulic cylinder causing the motion of said hydraulic piston toward said upper prosthetic member and motion of said gas piston toward said lower prosthetic limb member.

22. The prosthetic device according to claim 12, wherein a pivotal platform is interposed between said upper prosthetic limb member and said hydraulic cylinder

and said gas cylinder in such a manner that said first and second connecting elements are pivotally connected to said platform.

23. The prosthetic device according to claim 22, wherein said platform is pivotal about an axle situated in a central region of the platform, said second connecting element is pivotally connected to said platform through an anterior pivotal mount disposed anterior to said pivotal axle, said first connecting element is pivotally connected to said platform by means of a posterior pivotal mount disposed posterior to the pivotal axle.

24. A prosthetic knee, comprising:

a hydraulic cylinder having a hydraulic piston movably disposed thereinside, so as to form a hydraulic chamber between an interior of said hydraulic cylinder and piston, a first connecting element extending outwardly from said hydraulic cylinder; and

a gas cylinder independent from said hydraulic cylinder said gas cylinder having a gas piston movably disposed thereinside, so as to form a gas chamber between the interior of said gas cylinder and piston, a second connecting element extending outwardly from said gas piston;

whereby motion of said hydraulic piston in one direction causes motion of said gas piston in the opposite direction.

25. The prosthetic knee according to claim 24, further comprising a gas valve arrangement associated with said gas chamber, so that during movement of said hydraulic piston toward a bottom of said hydraulic cylinder said gas chamber is extended, so as to allow a gas to enter the gas chamber via said gas valve arrangement.

26. The prosthetic knee according to claim 25, wherein upon motion of said hydraulic piston away from said bottom of the hydraulic cylinders the respective motion of said gas piston diminishes said gas chamber, so as to compress and discharge said gas from said gas chamber via said valve arrangement.

27. The prosthetic knee according to claim 24, wherein said motion of said hydraulic piston away from said bottom of the hydraulic cylinder is caused by a pressurized hydraulic fluid situated within said hydraulic operational chamber.